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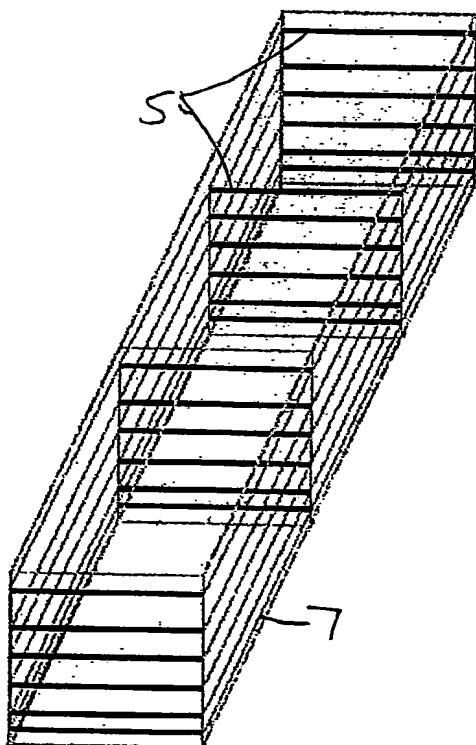
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(54) Title: **EMBEDDED NANOTUBE ARRAY SENSOR AND METHOD OF MAKING A NANOTUBE POLYMER COMPOSITE**



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(57) Abstract: A method of producing polymer/nanotube composites where the density and position of the nanotubes (11) within the composite can be controlled. Carbon nanotubes (11) are grown from organometallic micropatterns. These periodic nanotube arrays are then incorporated into a polymer matrix (7) by depositing a curable polymer film on the as-grown tubes. This controlled method of producing free-standing nanotube/polymer composite films may be used to form nanosensor (3) which provide information regarding a physical condition of a material (20), such as an airplane chassis or wing, in contact with the nanosensor (3).

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